ANCHOR PACKAGING

Arkansas Recycling Coalition

WHO IS ANCHOR PACKAGING

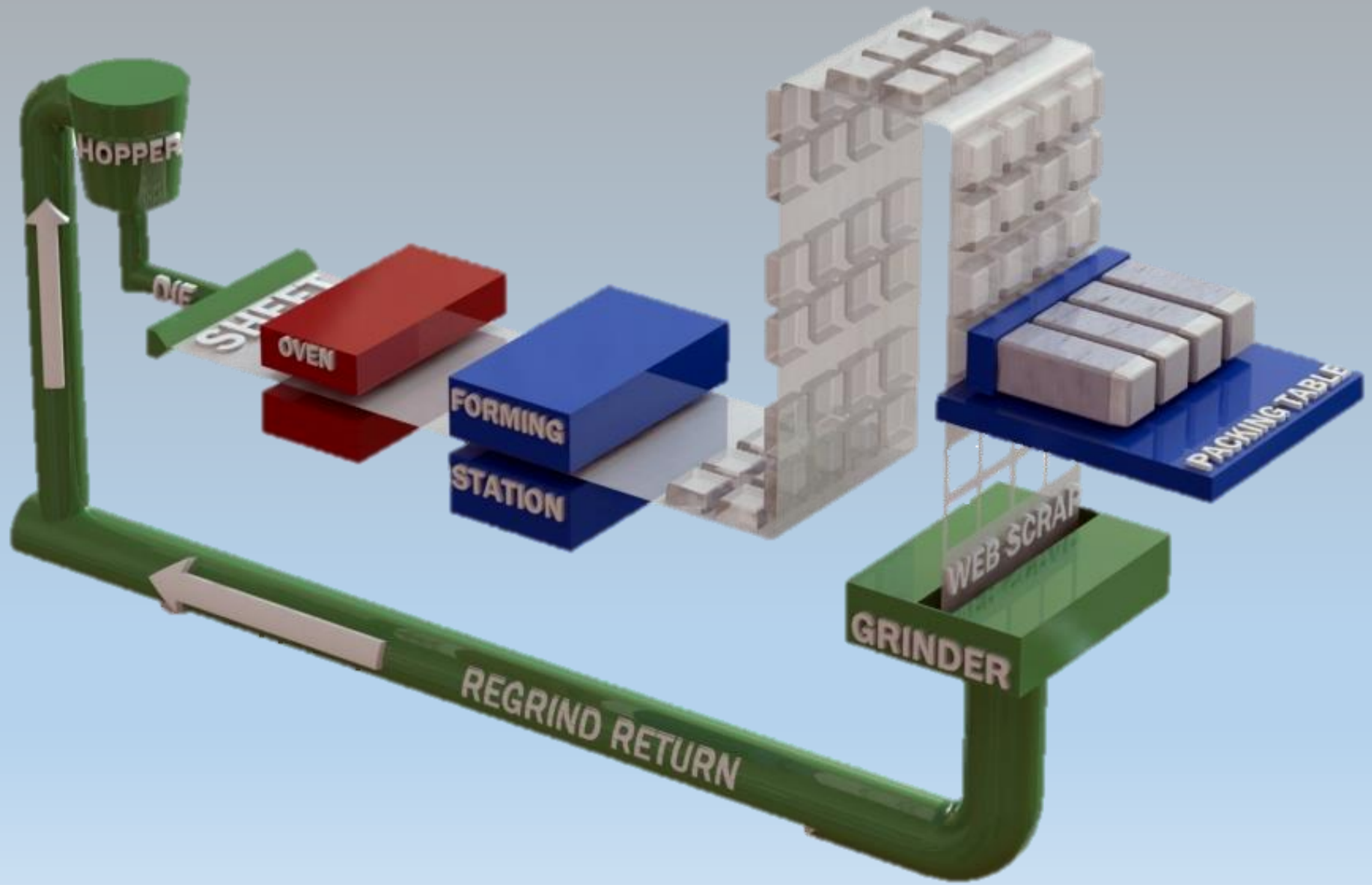
- Privately Held Company

- Plastics Manufacturing Since 1963
- Manufacturing Locations in Arkansas

- 9th Largest Thermoformer in USA

WHAT WE DO

ANCHOR PACKAGING



MARKETS

ANCHOR PACKAGING

FOOD SERVICE

RETAIL

FOOD PROCESSOR

Anchor Follows EPA Recommendations-Solid Waste Management

ANCHOR PACKAGING

Most Preferred

Least Preferred

Original Source:
Environmental Protection Agency
Solid waste Management Hierarchy

PRIMARY DRIVERS OF RIGID FOOD PACKAGING DESIGN

CONVENIENCE

Microwaveable
Heat Retention
Leak Resistance
Freshness
Transportable
Tamper Evident

ENVIRONMENTAL IMPACT

Recyclable
Compostable
Bio-Degradable
Renewable

MARKET

Price
Material Selection
Appearance
Branding

PRIMARY DRIVERS OF Rigid FOOD PACKAGING DESIGN

MATERIAL OPTIONS

MATERIALS IN RIGID PACKAGING	Recyclable Curbside Most Communities	BPI Certified Compostable Commercially	Renewable Resource	Post-Consumer Recycled Content	Less Oil Based Resin	Holds Hot Food	Food Visability	Integral Anti-Fog	Grease Resistant	Leak Resistant	Dishwasher Safe
PLASTIC											
PP	✓					✓	✓	✓	✓	✓	✓
MFPP	✓				✓	✓	✓		✓	✓	✓
PETE	✓						✓		✓	✓	
RPET	✓		✓	✓	✓		✓		✓	✓	
OPS/ HIPS						✓	✓		✓	✓	
EPS/ FOAM						✓			✓		
FIBER*											
Sugarcane/Bagasse		?	✓			✓	?		?		
Paperboard	✓	?	✓	✓		?	?		?		
Wheat Straw		?	✓			✓	?		?		
BIOPOLYMER											
PLA		✓	✓				✓		✓	✓	

?-Materials vary; consult the manufacturer to lean more. *May be PLA lined or polycoated. PP-polypropylene, MFPP-mineral-filled Polypropylene, PETE-Polyethylene Terephthalate, RPET-Post Consumer recycled Polyethylene Terephthalate, OPS-Oriented Polystyrene, HIPS-High Impact Polystyrene EPS- Expanded Polystyrene (Foam/ Styrofoam). PLA-Polylactic Acid

SUSTAINABILITY SNAPSHOT OF RIGID FOOD PACKAGING

Fiber: Paperboard, Clamshells & Containers that are Formed

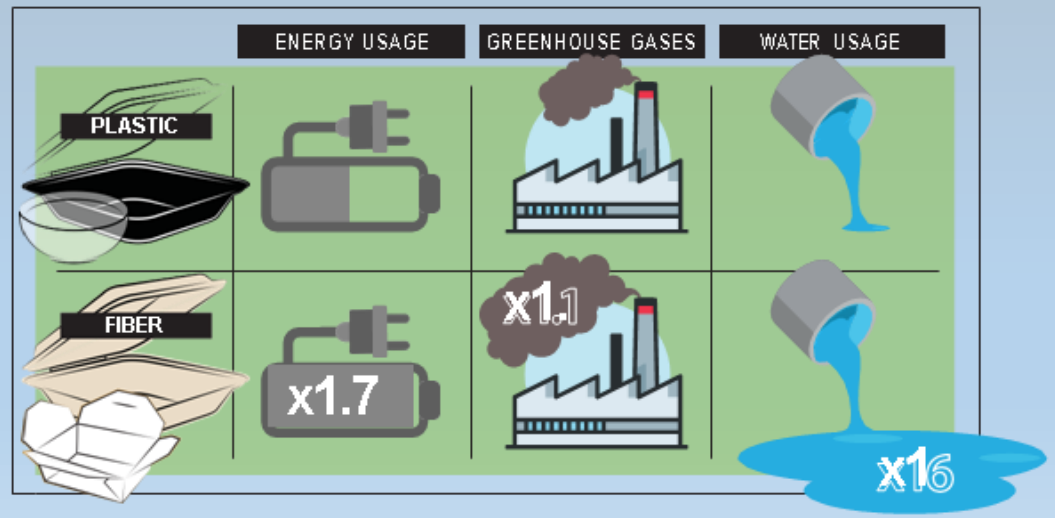
PAPERBOARD PACKAGING
RECYCLABLE

PROS

- Made from renewable resource
- Reduces carbon footprint
- Recyclable if no food residual
- Compostable (Industrial only)

CONS

- Energy usage
- Water consumption



SUSTAINABILITY SNAPSHOT OF RIGID FOOD PACKAGING

Bio-Plastics: Plastic that has bio-based content bio-degradable or both. May include corn, potatoes, rice, soy, sugarcane, wheat, and vegetable oil

PROS

- Made from renewable resource
- Reduces carbon footprint
- Bio-degradable/ Compostable
- Can be recyclable (Coke bottles)
- Other Bio-Plastics coming soon

CONS

- Pollution from fertilizers and land diverted from food production
- Land usage & water consumption
- Availability
- Price

Excerpts taken from National Geographic Article "What you need to know about plant-based plastics" Nov 2018

SUSTAINABILITY SNAPSHOT OF RIGID FOOD PACKAGING

Plastics: Made Primarily From Natural Gas in the U.S.

PROS

- Less Energy to Produce
- Less Water Required to Produce
- Can be Recycled
- Readily available & cost effective

CONS

- Non-Renewable Resource
- Not Bio-Degradeable
- Presently Low Percentage of Recycling
- Not Compostable

What is the Outlook for Plastic Recycling?

Challenges of Mixed Plastics

- Color

- Contamination

- Odor

- Melt Flow

Honey

Water

What is the Outlook for Plastic Recycling?

Challenges of Mixed Plastics

Melt Flow: Viscosity of a Thermoplastic

Thermoforming Blow Molding

Melt Flow:
<1-3 Gr/ 10 Min

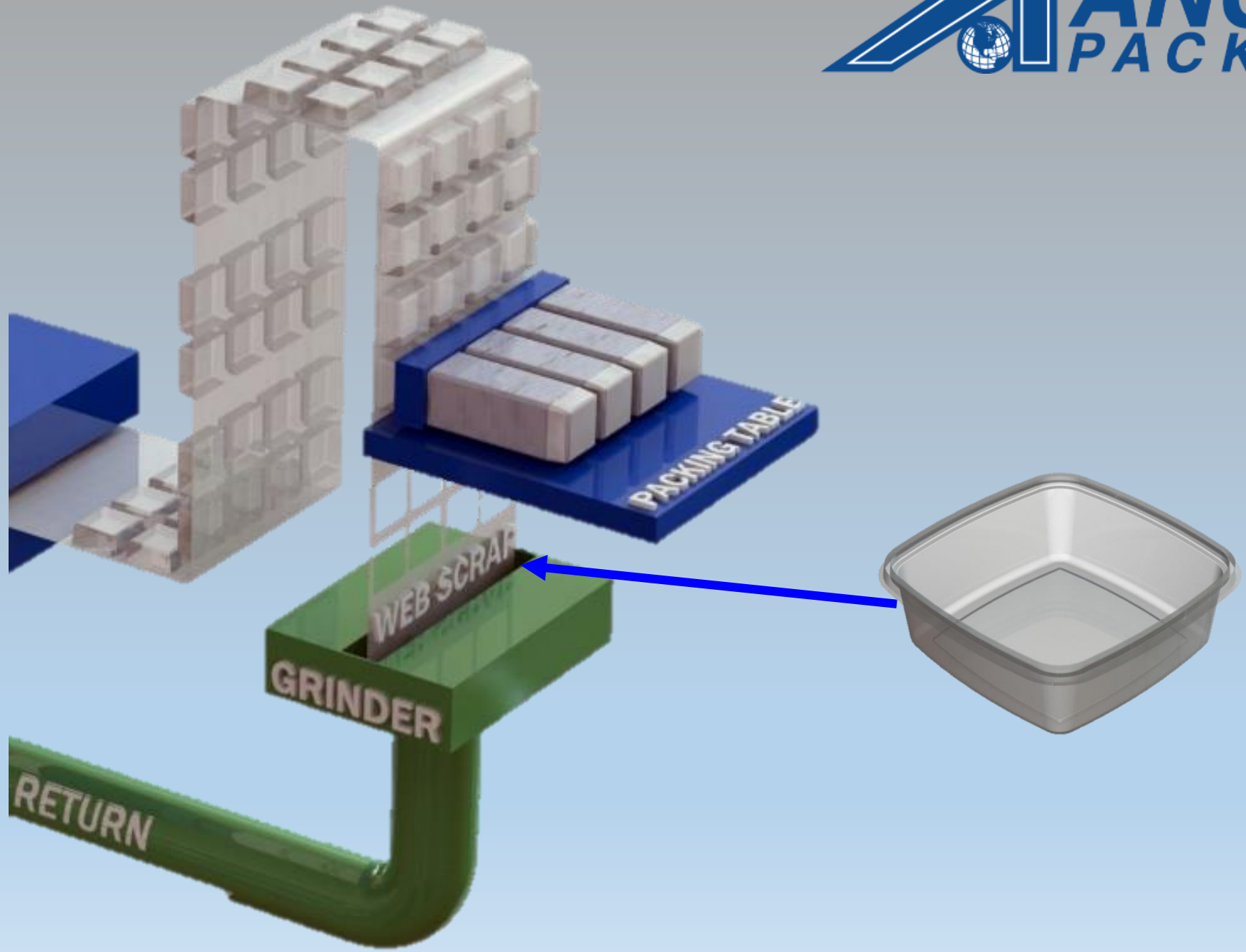
Extrusion

Melt Flow:
5-7 Gr/ 10 Min

Injection Molding

Melt Flow:
15-30 Gr/ 10 Min

ANCHOR PACKAGING



What's is the Outlook for Plastic Recycling

Infrared Sortable Black Colorant for Plastics

Ampacet

PolyOne™

CLARIANT

What is the Outlook for Plastic Recycling?

Closed Loop Partners: Investment firm focused on building the Circular Economy

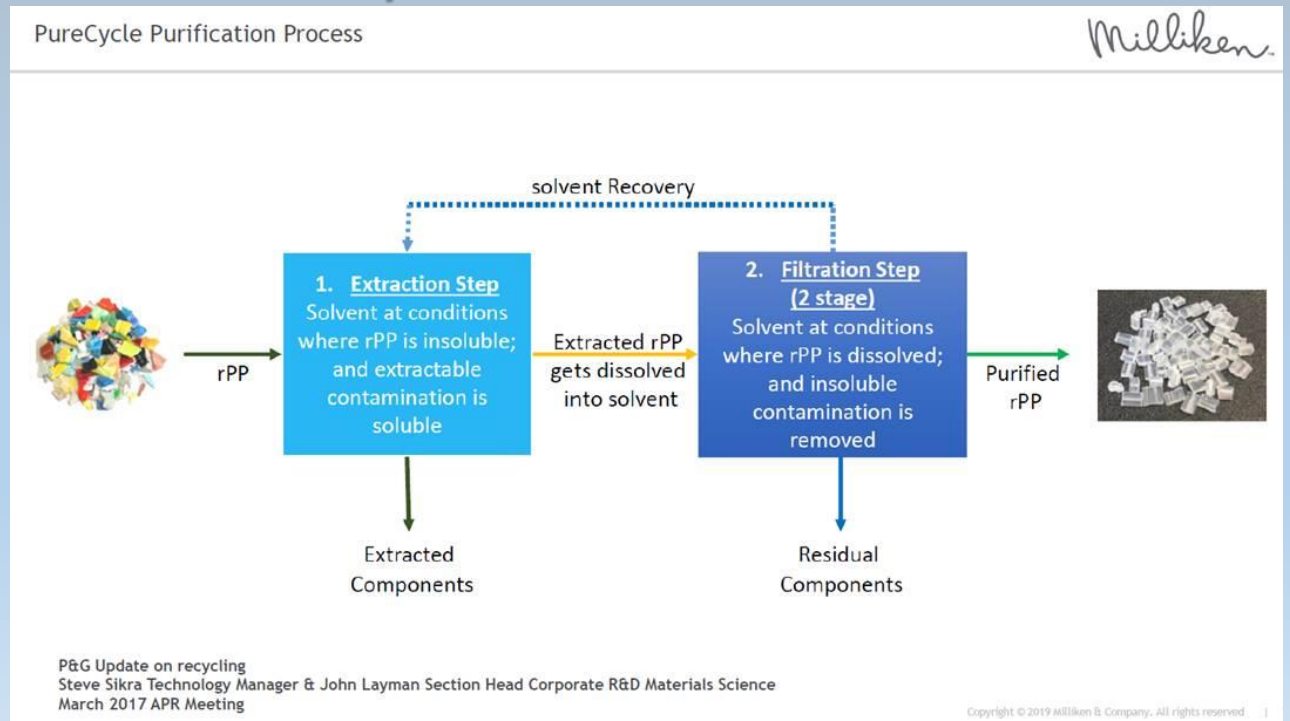
- At least 60 technology providers developing “transformational” technologies that purify, decompose or convert waste plastics into renewed raw materials
- Purification
- Decomposition
- Conversion

Closed Loop Partners: Accelerating Circular Supply Chains for Plastics

What's is the Outlook for Plastic Recycling

PureCycle: Patented Purification Process for Polypropylene

- Separates color, odor and other contaminants from plastic waste feedstock
- Transforms it into virgin-like resin – Clear and FDA
- First plant operational (Ohio) in 2020: 25 plants globally in 15 years
- Generate 4 billion pounds annually of rPP



What's is the Outlook for Plastic Recycling

Loop Industries: Decomposition Process for PET

- Breaks down Waste PET into its Basic Chemical Building Blocks
- Source of Waste PET is: Old T-Shirts, Fabrics, Water bottles & Food trays
- Process removes all Dyes, Additives & Foodstuffs from Waste
- Virgin-Quality Plastic which meets FDA Requirements for Food Contact Use

What's is the Outlook for Plastic Recycling

Agilyx: Conversion Process for Polystyrene

- Converting Polystyrene Foam Cups, Packaging Materials, and Styrofoam into Styrene oil
- Oregon Plant: 1st commercial-scale closed-loop chemical recycling process for PS in the world
- Creating Monomer that's as Good as Virgin
- Used by Manufacturers for Producing Consumer Goods
- Recycling capacity up to 10 tons per day of PS waste to produce high-quality styrene oil

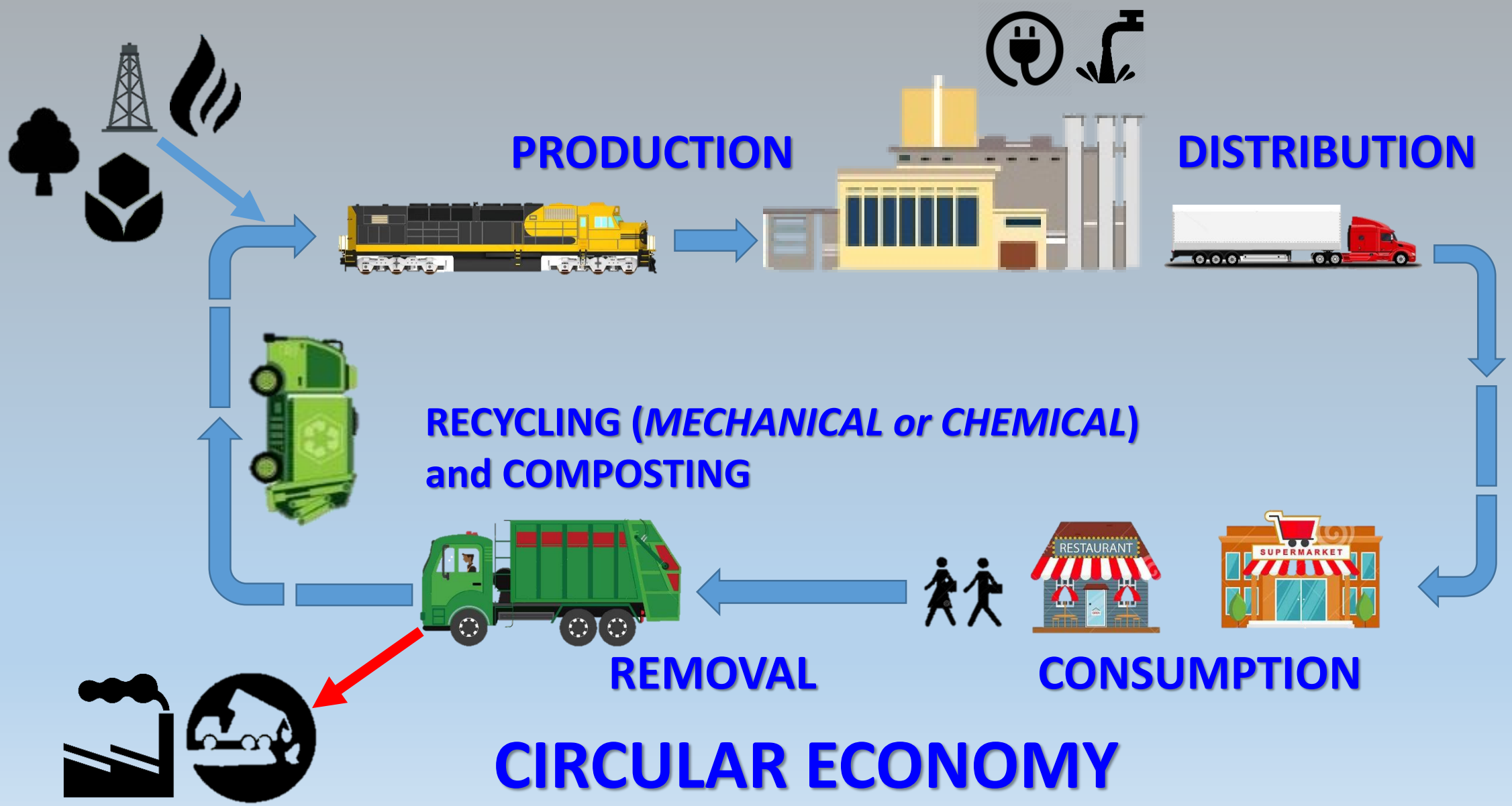
Closed Loop Partners: Accelerating Circular Supply Chains for Plastics
plasticsinsight.com/agilyx-launches-worlds-first-commercial-scale-polystyrene-to-styrene-oil-recycling-plant

What's is the Outlook for Plastic Recycling

Lakeshore Recycling Systems: Mechanical Recycling

- Goldman Sachs Invested in Lakeshore Recycling Systems
- Comprehensive Waste Removal to Businesses and Residential Homeowners in Chicago
- Cutting-edge Robotics, LRS installed an Optical Sorter
- LRS recycles 86% of all waste that comes into their facility
- Only 14% of Waste ends up in a landfill
- LRS does not own a landfill, and not "conflicted" over inexpensive disposal costs

What Could be the Future for Rigid Food Packaging?



CIRCULAR ECONOMY

End-of-Life and Choice

- Consumers choose the final destination for everything
- For packaging, we hope they choose to re-use, recycle, or compost
- Our roles as manufacturers and users of rigid food packaging is to:

  "Provide the best choices to preserve Food quality and the consumer experience while reducing the use of natural resources, reusing materials, recycling, or composting with consideration of performance and price for our businesses"

- **The Choice Falls with Everyone!**

ANCHOR PACKAGING

Thankyou

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